App No.: Not Yet Assigned Docket No.: R2184.0274/P274

Inventor: Toshiyuki Kawasaki, et al.

Title: DIFFRACTION GRATING, METHOD OF FABRICATING DIFFRACTION OPTICAL ELEMENT, OPTICAL PICKUP

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### FIG.1 PRIOR ART

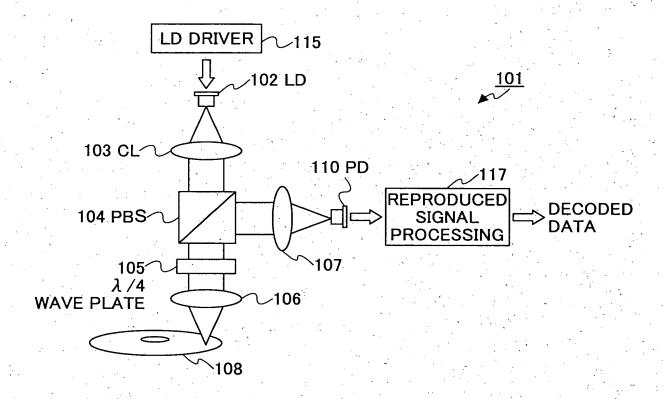
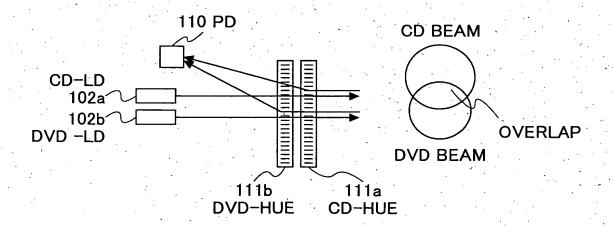


FIG.2 PRIOR ART



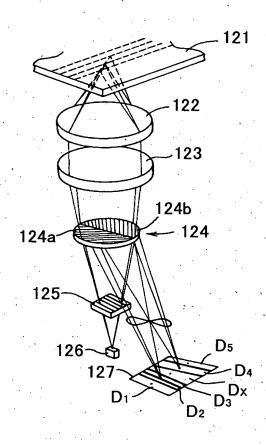
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DIFFRACTION OPTICAL ELEMENT, OPTICAL PICKUP

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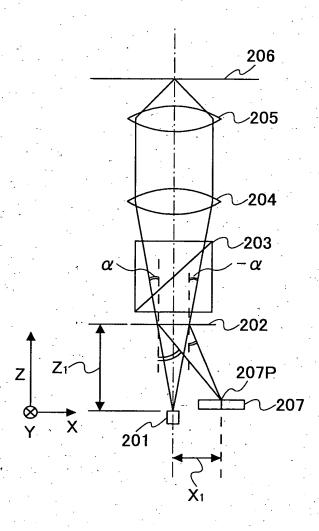
# FIG.3 PRIOR ART



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## FIG.4 PRIOR ART



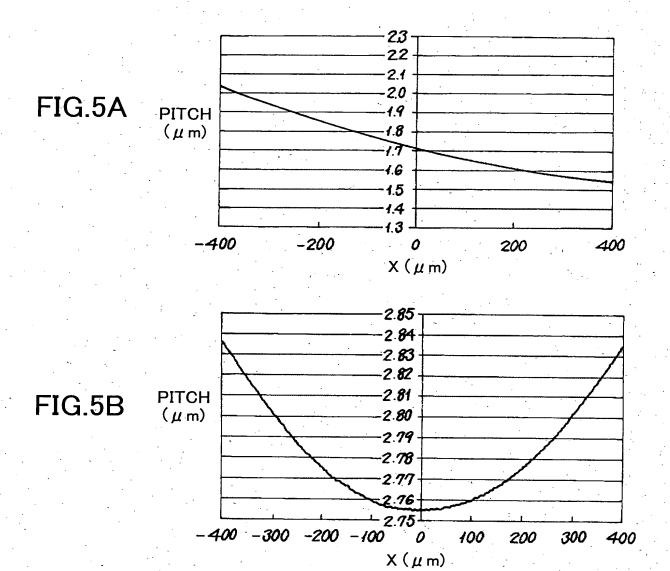
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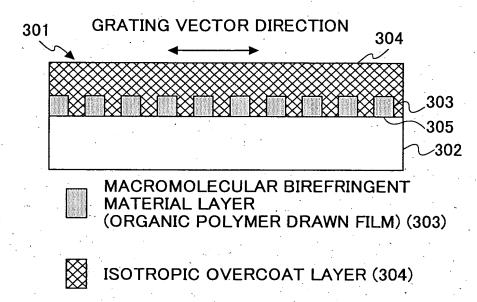
### **PRIOR ART**



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### FIG.6 PRIOR ART

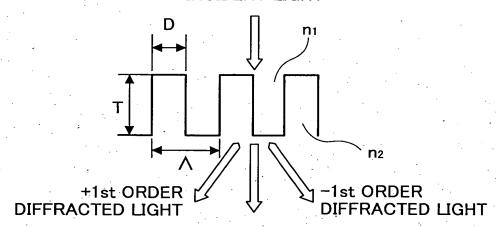


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FIG.7

#### **INCIDENT LIGHT**

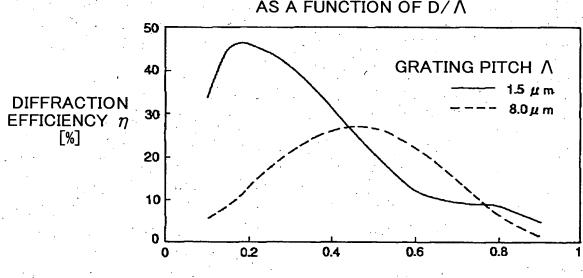


TRANSMITTED LIGHT (ZERO ORDER DIFFRACTED LIGHT)

FIG.8

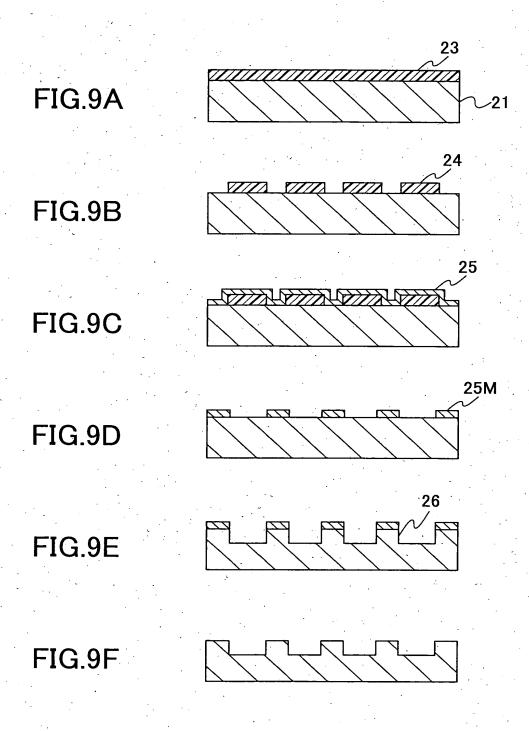


 $D/\Lambda$ 



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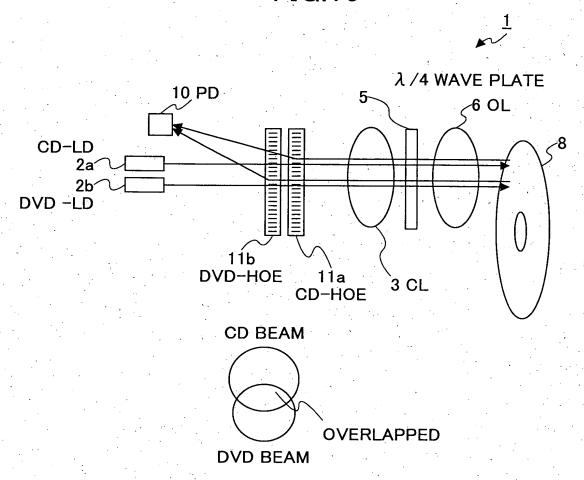
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**FIG.10** 

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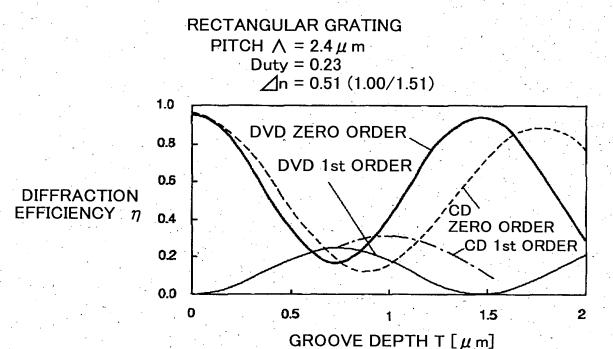
Inventor: Toshiyuki Kawasaki, et al.

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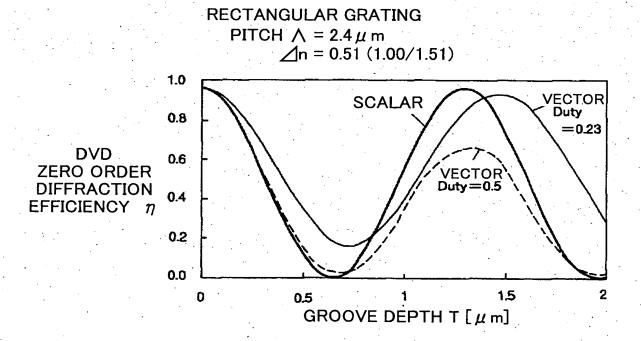
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**FIG.11** 



**FIG.12** 



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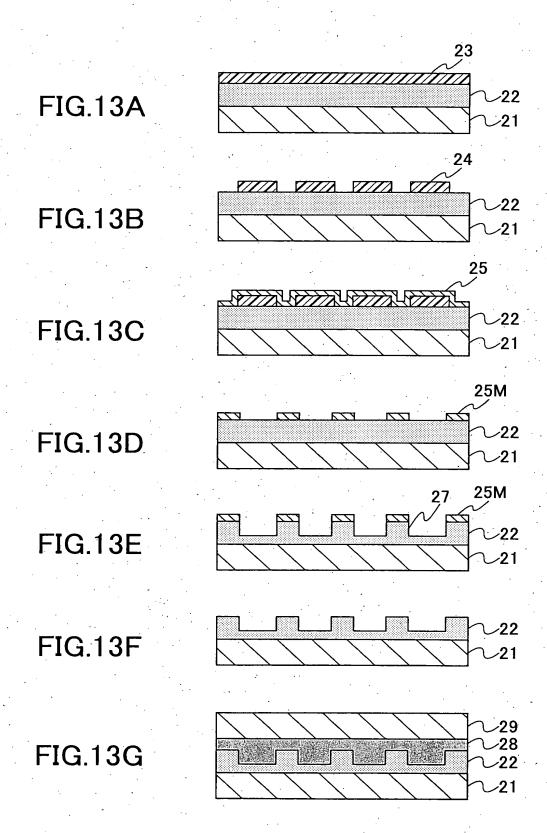


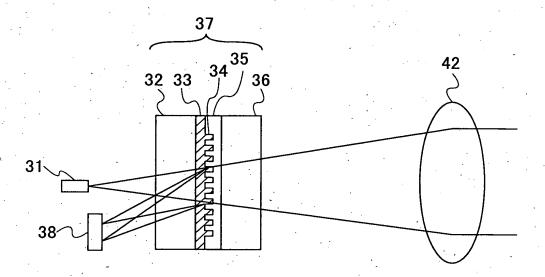
FIG.14

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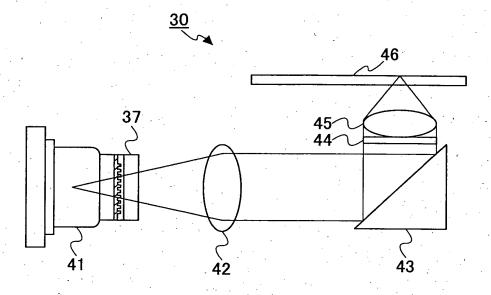
FIG.15



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FIG.16



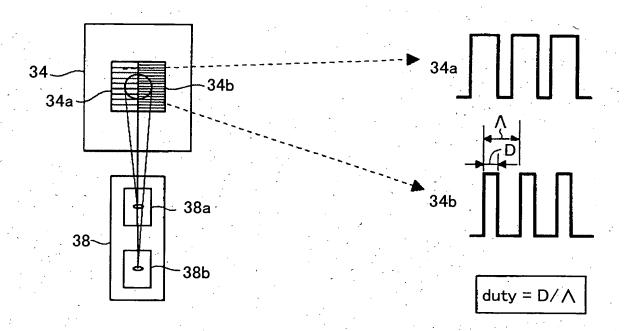
App No.: Not Yet Assigned Docket No.: R2184.0274/P27 Inventor: Toshiyuki Kawasaki, et al. Title: DIFFRACTION GRATING, METHOD OF FABRICATING DIFFRACTION OPTICAL ELEMENT, OPTICAL PICKUP

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FIG.17A

FIG.17B



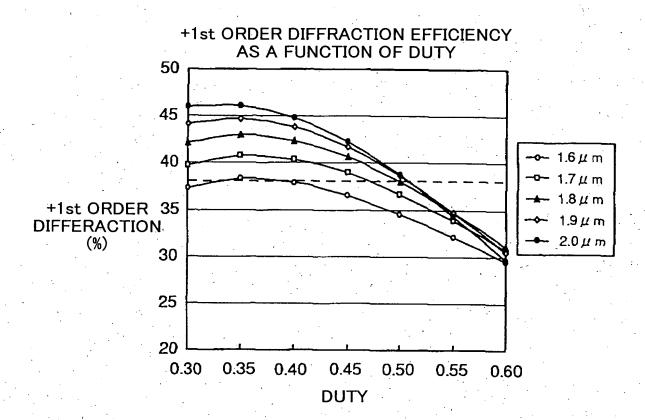
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**FIG.18** 



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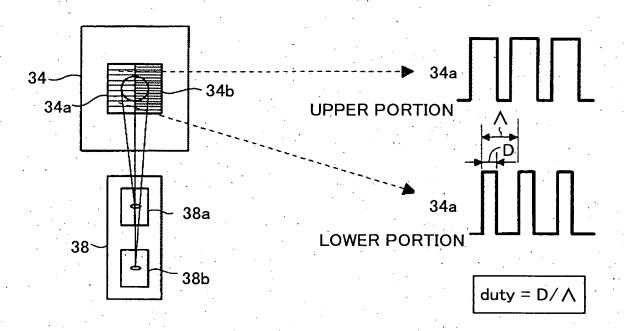
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FIG.19A

FIG.19B

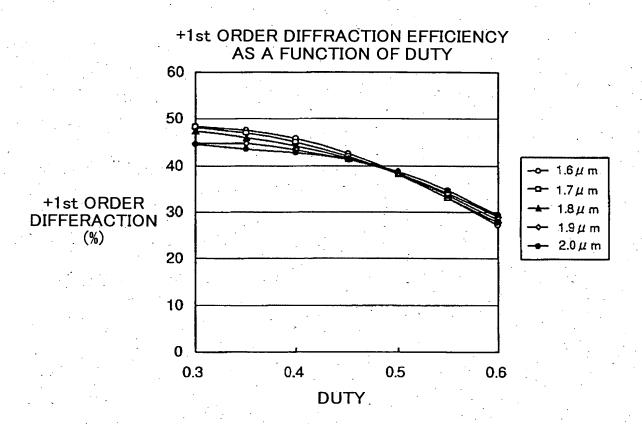


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FIG.20



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FIG.21B

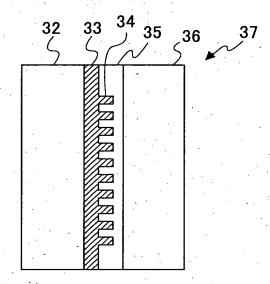
FIG.21A

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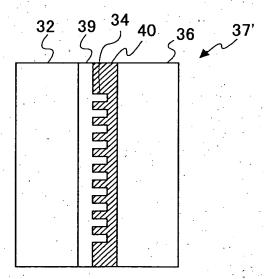
App No.: Not Yet Assigned Docket No.: R2184.0274/P2' Inventor: Toshiyuki Kawasaki, et al.
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FIG.22



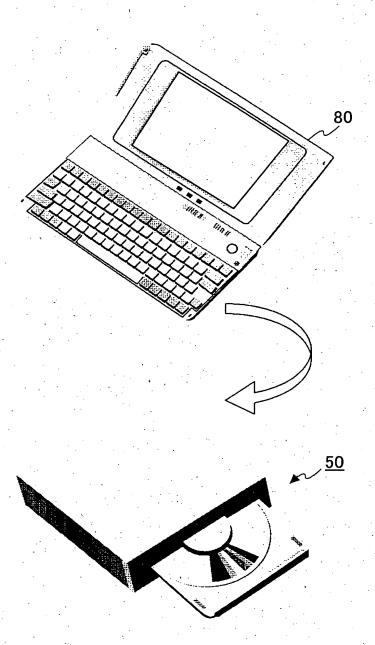
**FIG.23** 



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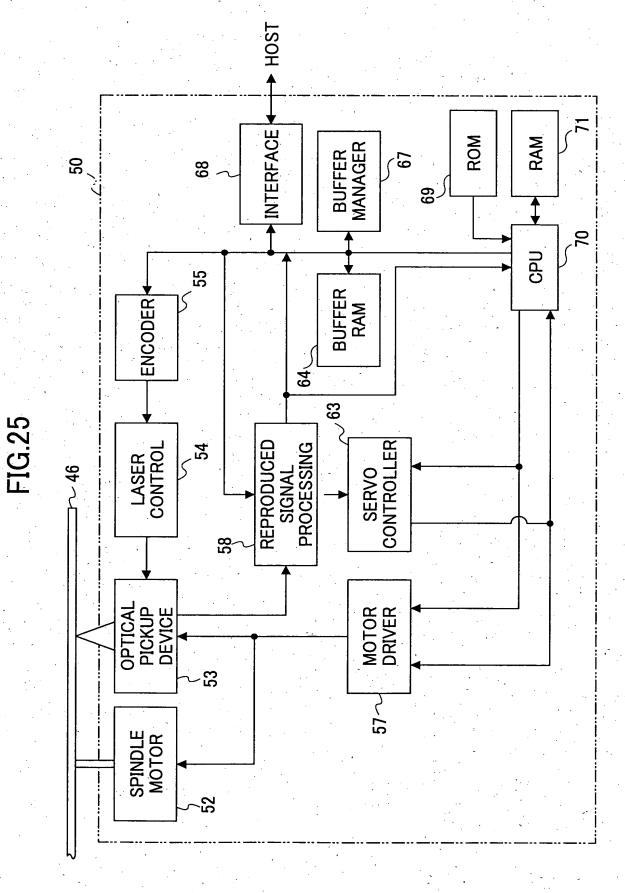
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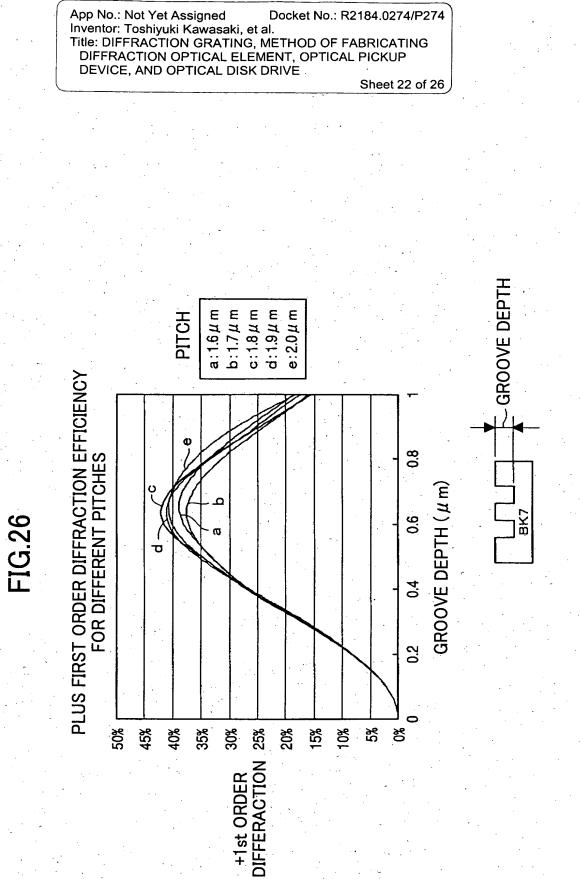
FIG.24

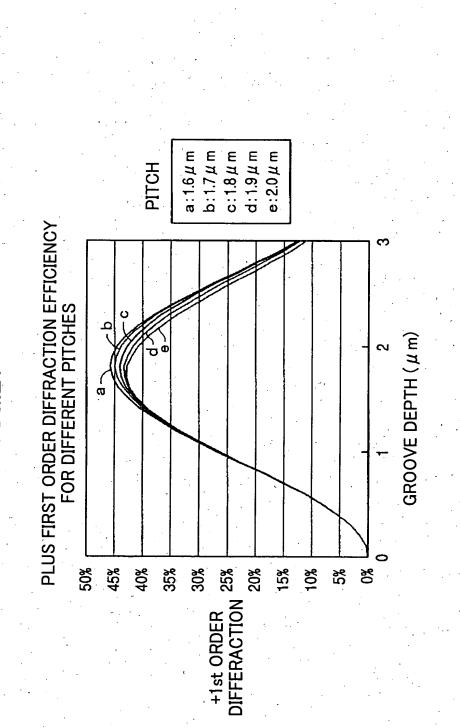


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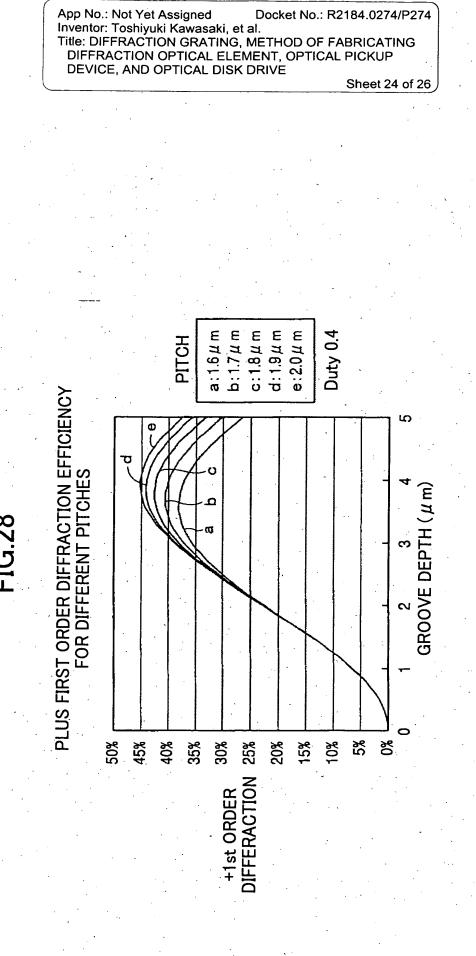
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FIG.27



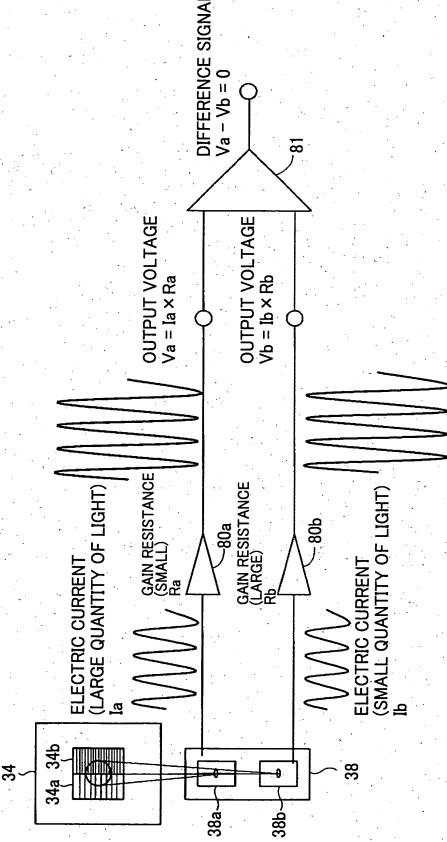


FIG.29

App No.: Not Yet Assigned Dinventor: Toshiyuki Kawasaki, et al. Title: DIFFRACTION GRATING, METHOD OF FABRICATING DIFFRACTION OPTICAL ELEMENT, OPTICAL PICKUP DEVICE, AND OPTICAL DISK DRIVE Sheet 26 of 26 DIFFERENCE SIGNAL  $Va - Vb \neq 0$ 8 **OUTPUT VOLTAGE OUTPUT VOLTAGE**  $Vb = Ib \times Rb$ = la × Ra \sqr GAIN RESISTANCE (SMALL) Ra GAIN RESISTANCE (LARGE) Rb ELECTRIC CURRENT (LARGE QUANTITY OF LIGHT) **908** -80a ELECTRIC CURRENT (SMALL QUANTITY OF LI 34b 38a∼ 38b.

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